#### PROCEEDINGS

OF THE

## BIOLOGICAL SOCIETY OF WASHINGTON

# MUHLENBERG ON PLANTS COLLECTED IN THE DISTRICT OF COLUMBIA REGION ABOUT 1809.

BY W. L. McATEE.

In the year 1809 no list of plants of the District of Columbia region had yet been published, nor, so far as we know, had any society been organized for the study of plants. Data on plant collections of that period are of considerable value, therefore, and it is of interest to know that at least three amateurs were collecting here at that day and sending their plants to the leading American botanist of the time, Dr. Henry Muhlenberg.<sup>1</sup>

These facts appear from a letter<sup>2</sup> of Muhlenberg's addressed to "Dr. John Ott, at Georgetown, Columbia D.," the botanical matter in which is as follows:

Lancaster, Sept. 25, 1809.

Dear Sir:

I am ever so much obliged to you for this magnificent package of plants and also to the other gentlemen who have contributed to it. I was very glad indeed, and all my wishes have been satisfied. I was short of some plants which Clayton described in his excellent Flora Virginica. Some of them I found in the present collection, and if you continue in this way I am in hopes to have them all in the end. The section around Columbia is particularly rich in rare plants. I regret that the plants have not been provided with numbers. By enumerating them the correspondence regarding the same is very much facilitated. The nomenclature is clearer and the fixing of new and unknown plants will be more intelligible. I have been looking them all over, but only superficially. When I put them into my herbarium I shall make a thorough examination of the same. I shall specify below the nomenclature just the same way as I have put it into my diary according to my first examination. Such as are new to me and of which I am not sure I have marked with a cross.<sup>3</sup> Of these I would like

<sup>1</sup>This is the form of his name on the title page of his pioneer Catalogus Plantarum Americae Septentrionalis, 1813, and probably should be adopted as the well considered preference of his mature years rather than the baptismal name of Gotthilf Heinrich Ernst given in encyclopedias and the like.

<sup>&</sup>lt;sup>2</sup>The body of this letter is in German script which was translated for me, very obligingly, by Dr. Carlo Zeimet of the U. S. Bureau of Entomology. The letter, in my possession, was purchased through a book-dealer, from an autograph collection marketed in Philadelphia.

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to have more specimens and, if possible, seeds. In case they are very interesting to me I marked them "Nb." If I could have these in order to plant them in my garden and examine them alive, I should be very much pleased. Kindly excuse my imposition upon you in this regard.

[Then follows the list of plants for which I append both Muhlenberg's names (together with the symbols he mentions) and modern equivalents. With one exception the latter agree with those in Britton and Brown, Illustrated Flora of the Northeastern United States, etc., Second Ed. 1913.]

#### Muhlenberg's Name.

### \*1. Heliotropium europaeum Nb

\*2. Hyoseris maior Nb

3. Buphthalmum helianthoides

4. Eupatorium Nb

\*5. Aster

\*6. Narthecium pubens

\*7. Melanthium racemosum

8. Antirrhinum linaria

\*9. Verbascum

10. Saxifraga nivalis

11. Stellaria pubera

b. Oxalis corniculata

12. Arabis canadensis

b. Mentha viridis. A var.?
13. Ranunculus flamula

\*14. Ruellia

15. Oenothera fruticosa. A var.?

16. Sambucus canadensis

17. Sium angustifolium

18. Evonymus atropurpureus

19. Prinus verticillatus

20. Vaccinium disomorphum

21. Smyrrnium integerrimum

22. Thaspia trifoliata

23. Cicuta maculata

24. Convolvulus spithamaeus b. "panduratus

25. Cynoglossum officinale

26. Myosotis arvensis

27. Ceanothus americanus

b. " corymbosus Nb.

\*28. Verbascum like 9

29. Phlox pilosa

\*b. "glaberrina

30. " subulata

#### Modern Equivalent.

Same

Cynthia dandelion

Heliopsis helianthoides

Same

Triantha racemosa

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Linaria linaria

Same

Should be Micranthes virginensis no doubt.

Alsine pubera

Xanthoxalis corniculata

Same

Mentha spicata

Ranunculus reptans

Same

Kneiffia fruticosa

Same

Berula erecta

Euonymus atropurpureus

Ilex verticillata

Vaccinium atrococcum

Taenidia integerrima

Thaspium trifoliatum

Same

Same

Ipomoea pandurata

Same

. .

Name for an intermediate form not now recognized.

Same

Same

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31.	Phlox maculata	Same
*b.	" pilosa?	"
*c.	" glaberrima like 29	u
32.	Asclepias obtusifolia	Asclepias amplexicaulis
b.	_	" rubra
33.	Evonymus atropurpurcus	Euonynus atropurpureus
34.	Anchusa villosa	Possibly Lithospermum canescens
35.	Cynoglossum offic. like 25	Cynoglossum officinale
	Lysimachia ciliata	Steironema ciliatum
37.	" angustifolia	" lanceolatum
38.	Linum virginianum	Cathartolinum virginianum
	Heuchera	Same
	Lysimachia hirsuta	Lysimachia quadrifolia
	Bignonia sempervirens	Gelsemium sempervirens
	Prinus verticillatus	Ilex verticillata
	Lithospermum arvense	Same
	Dodecatheon meadia	u
	Lysimachia stricta	Lysimachia terrestris
	Rhamus Nb.	Same
47.	Physalis lanceolata m.	Physalis sp.
b.	" viscosa Mich.	Physalis heterophylla
c.	Solanum carolinianum	Solanum carolinense
48.	Pentstemon laevigat.	Pentstemon pentstemon
49.	Scutellaria ovalifolia	Scutellaria pilosa
50.	" hyssopifolia	" integrifolia
51.	Mimulus alatus	Same
52.	Stachys aspera	66
*53.	Gratiola pilosa	Sophronanthe pilosa
	Lycopus virginicus	Same
55.	Scutellaria hyss. like 50	Scutellaria integrifolia
	Clinopodium vulgare	Same
57.	Gentiana ochroleuca	Dasystephana villosa
58.	Claytonia virgin.	Claytonia virginica
59.	Viburnum dentatum	Same
60.	Itea virginica	"
61.	Lonicera symphoricarpos	Symphoricarpos symphoricarpos
62.	Thesium umbellatum	Comandra umbellata
b.	Gentiana saponaria	Dasystephana saponaria
63.	Plantago lanceolata	Same
	Sanicula marilandica	CC .
	Euphorbia corollata	Tithymalopsis corollata
	Ranunculus bulbosus	Same
67.	Anemone thalictroides	Syndesmon thalictroides
b.	" quinquefolia	Same
68.	Geranium maculatum	· ·
69.	Panax trifoliatus	Panax trifolium
70.	Mitchella repens	Same
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b. Asarum canadense

b. var. alba

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71.	Vaccinium resinosum	Gaylussacia baccata
72.	Cuphea viscosa	Parsonsia petiolata
	Polygala seneca	Polygala senega
b.	" incarnata	Same
c.	" sanguinea	Polygala viridescens
d.	Galium pilosum	Same
	Vaccinium stamineum	Polycodium stamineum
b.	" frondosum	Gaylussacia frondosa
c.	" virgatum	Same
	Rhexia virginica	"
	Stilosanthes elatior	Stylosanthes biflora
	Glycine monoica	Falcata comosa
b.	" apios	Apios apios
	Vicia caroliniana	Same
	Galega virginica	Cracca virginiana
	Hedysarum repens	Lespedeza repens
d.	" divergens	?
	Asclepias tuberosa	Same
	Kuhnia critonia	
		Kuhnia eupatorioides
	Echium vulgare	Same
	Dodecatheon	66
	Aster	64
*83.		T
	Erigeron heterophyllum	Erigeron annuus
85.	beindhondin	Erigeron bellidifolius
	Aster diversifolius	Aster undulatus
87.	mamonus	Ionactis linariifolius
88.	" ericoides	Same
89.	" puniceus	
90.	" corymbosus	Aster divaricatus
	Asclepias cordata	Asclepias rubra
b.	" verticillata	Same
	Aster concolor	**
	Solidago	u
94.	" gigantea	Solidago serotina
b.	" rugosa	Same
	Solidago	"
b.	" bicolor	"
*c.	Solidago	Same
96.	" nemoralis	4.6
97.	Viola primulaefolia	Viola primulifolia
b.	" palmata	Same
c.	" arvensis	u
d.	" sagittalis	Viola sagittata
e.	" cucullata	Same
f.	" blanda?	· · ·
98.	Lobelia cardinalis	и
1	11	"

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c.	Lobelia siphilitica	Lobelia syphilitica	
d.	" puberula	Same	
*e.	" Nb.	"	
99.	Impatiens biflora	"	
	Eupatorium purpureum	"	
	Conyza asteroides	Sericocarpus asteroides	
b.	" linifolia	" linifolius	
101.	Eupatorium perfoliat.	Eupatorium perfoliatum	
	Rudbeckia fulgida	Same	
103.	Eupatorium coelestinum	"	
104.	" hyssopifol.	Eupatorium hyssopifolium	
105.	" seandens	Mikania scandens	
106.	Inula mariana	Chrysopsis mariana	
	Eupatorium album	Same	
<sup>*</sup> 108.	Siegesbeckia Nb	Phaethusa	
	Elephantopus tom.	Elephantopus tomentosus	
110.	Cacalia atriplicifolia	Mesadenia atriplicifolia	
111.	Helenium autumnale	Same	
112.	Doronicum nudicaule	Arnica acaulis	
113.	Hieracium venosum	Same	
b.	" marianum	"	
*114.	Senecio	"	
	Bidens frondosa		
b.	Sonchus floridanus	Lactuca floridana	
	Solidago lanceolata	Euthamia graminifolia	
	Gnaphalium plantag.	Antennaria plantaginifolia	
*118.	Helianthus angustifol.	Helianthus angustifolius	
	Rudbeckia laciniata	Same	
	Helianthus mollis		
*121.	" gigas?	Helianthus giganteus	
	Chrysanthemum leucanthemum		
123.	Chrysogonum virg.	Chrysogonum virginianum	
124.	Liatris spicata	Laciniaria spicata	
125.	Bidens chrysanthemoides	Bidens laevis	
126.	Polymnia uvedalia	Same	
	Vernonia noveboracensis	Baccharis halimifolia	
	Bacharis halimifolia	Arisaema triphyllum	
	Arum triphyllum	Same	
	Verbascum blattaria var.	Silene caroliniana	
	Silene pensilvanica	Same	
	Sedum ternatum	Eubotrys racemosa	
	Andromeda racemosa Cucubalus stellatus	Silene stellata	
	Cucubaius stenatus Cerastium arvense?	Same	
	Andromeda mariana	Neopieris mariana	
135. b.		Xolisma ligustrina	
	Epigaea repens	Same	
126	Pyrola maculata	Chimaphila maculata	
100.	1 yrota macutata	C.I	

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b. 1	Gaul	theria	canad	lensis

- 137. Lythrum verticillatum
- 138. Podalyria australis
- 139. Lupinus perennis
- b. Crotolaria sagittalis
- 140. Monotropa uniflora
- 141. Apocynum cannabinum
- 142. Cassia nictitans
- 143. Ophrys cernua
  - b. " aestivalis
  - c. Orchis ciliaris
  - d. "psycodes
  - e. " lacera
  - f. Arethusa bulbosa
  - g. "ophiogloss.
  - h. Limodorum tuberosum
  - i. Cypripedium parviflorum
  - k. Malaxis liliifolia
- 144. Aristolochia serpentaria
- 145. Lycopodium complanatum
  - b. Asplenium ebeneum
  - c. Aspidium thelypteris
  - d. Adiantum pedatum
  - e. Osmunda regalis
  - f. Aspidium asplenioides
  - g. Onoclea sensibilis
  - h. Aspidium acrostichoides
    - i. Botrypus virgin.
- 146. Passiflora lutea
  - b. Sisvrinchium mucronatum
- 147. Verbena angustifolia
- b. Circaea canadensis
- \*c. Salvia urticifolia
- 148. Collinsonia canadensis
  - b. Dianthera pedunculosa
- 149. Salvia lyrata
- 150. Hamamelis virginica
  - \*b. Salsola tragus
- 151. Houstonia verna
  - b. Galium tinctorium
- 152. Dentaria laciniata
  - b. Arabis bulbosa
- 153. Cerastium arvense
- 154. Argemone mexicana
  - b. Thalictrum polygamum

Gaultheria procumbens

Decodon verticillatus

Baptisia australis

Same

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Chamaecrista nictitans

Ibidium cernuum

" vernale?

Blephariglottis ciliaris

" psycodes

" lacera

Same

Pogonia ophioglossoides

Same

Liparis liliifolia

Same

Same

Asplenium platyneuron

Dryopteris thelypteris

Same

Same

Athyrium asplenioides, recently reinstated by Butters as a segregate from A. filix-foemina Fide W. R. Maxon

Same

Polystichum acrostichoides

Botrychium virginianum

Same

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Circaea lutetiana

Same

oam

Dianthera americana

Same

Hamamelis virginiana

Salsola kali

Probably Houstonia coerulea

Same

Cardamine bulbosa

Same

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155. Sicyos angulata	Sicyos angulatus	
156. Hedysarum ciliare	Meibomia obtusa	
157. " reticulatum	Lespedeza virginica	
158. "repens as above	Lespedeza repens	
159. " cuspidatum	Meibromia bracteosa	
160. Clitoria mariana	Same	
161. Euphorbia hypericifolia	Chamaesyce preslii	
162. Sparganium erectum	Sparganium sp.	
163. Panicum virgatum	Same	
164. Melanthium virg.	Melanthium virginicum	
165. Tradescantia virg.	Tradescantia virginiana	
b. Scirpus lacustris	Scirpus validus	
166. Pontederia cordata	Same	
b. Saururus cernuus	"	
167. Veratrum luteum	Chamaelirium luteum	
b. Convallaria biflora	Polygonatum biflorum	
168. Uvularia perfoliata	Same	
169. Scutellaria lateriflora	44	
b. Gerardia villosa	Dasystoma flava	
170. Cunila mariana	Cunila origanoides	

b. Chelone glabra

Pedicularis canad.

172. Campanula amplexicaulis

The plants have been lying in the package in this way, and I left them in the same order until I reached the first numbers which were new to me and appeared to me quite strange. Where I do not make any mark it refers to plants which we have here in gardens or otherwise growing wild.

Same

Pedicularis canadensis

Specularia perfoliata

Now I should like to have also Virginian plants of the Flora Gronovii which I am lacking and which I should be glad to receive: 1. Salicornia, 2. Utricularia, 3. Cyperus odoratus, 4. Asperula, 5. Aphanes, 6. Sagina, 7. Lycopsis, 8. Triosteum angustifolium, 9. Swertia, 10. Tordylium, 11. Angelica lucida, 12. Burmannia, 13. Elatine hydropiper, 14. Vitex, 15. Dolichos regularis, 16. Helianthus atrorubens, 17. Verbesina virginica, 18. Centaurea, 19. Lobelia cliffortiana, 20. Zannichellia, 21. Tragia, 22. Atriplex, 23. Any hitherto undescribed plant.

Kindly transmit my best thanks, in my name, to Mr. Billy<sup>1</sup> and Mr. Pickford, and whenever you want something from this section of the country, kindly let me know.

With my best regards and assurance of friendship, I remain
Your obedient servant and friend,
Heinrich Muhlenberg.

Allowing for duplications and for incomplete identification there are in the neighborhood of 224 species of plants named in this remarkable letter. Though some of the names can not be identified with those of species now ranging in our area, there is no reason to doubt that all of the plants were collected in or near the District of Columbia and probably within a shorter

<sup>1</sup>This Mr. Billy no doubt is the Peter Billy who had sent plants from Virginia as stated in the preface of Muhlenberg's Catalog. No additional information on Mr. Pickford has vet been obtained.

radius than used by botanists in recent years. The general correctness of the determinations is shown by the fact that only 12 of the specifically identified plants of which the modern synonyms are known, in addition to one named only to the genus, are not included in the latest catalog of the Flora of the District. (Vol. 21, Contrib. Nat. Herb. 1919.)

The quality of collecting done by Dr. Ott and his associates was good, their plants by no means being of the most common sorts. Judged by recent experience the following plants (in the order of the list) must be considered either as local, uncommon, or rare: Triantha racemosa, Myosotis arvensis, Phlox pilosa, Asclepias rubra, Dodecatheon meadia, Sophronanthe pilosa, Anemone quinquefolia, Panax trifolium, Arnica acaulis, Helianthus angustifolius, Baccharis halimifolia, Gaultheria canadensis, Decodon verticillatus, Baptisia australis, Blephariglottis ciliaris, Arethusa bulbosa, Salsola kali, Argemone mexicana and Pedicularis canadensis.

The presence in the collection of the *Triantha*, *Asclepias rubra*, *Sophronanthe*, *Helianthus angustifolius*, *Blephariglottis ciliaris* and *Arethusa bulbosa*, shows beyond question, that these collectors had visited one or more of the Magnolia bogs, which harbor, as we now thoroughly realize, some of the rarest and most interesting plants of the region.

We are most fortunate in having records of plants that the earlier botanists collected and the attempt to rediscover them is a fascinating field of endeavor. The history of one of the bog species, namely, Arethusa bulbosa is very interesting and illuminating in this respect. Listed in the Florula Columbiensis of 1819 it later became one of the 'lost species' and was not rediscovered until 1918. Relating in part to this orchid, the writer, in discussing the Magnolia Bogs as a source of species recorded in the older works, but subsequently lost to sight, noted that Polygala lutea, P. cruciata, Rhexia mariana and Xyris caroliniana had been recovered and added "May we not also hope to discover in these bogs other plants mentioned, and with little doubt seen, by the older writers, such as Chamaedaphne calyculata, Trichostema lineare, Arethusa bulbosa, and Pogonia divaricata?" The ink was scarcely dry on the page when the Arethusa was rediscovered in the Suitland Bog.

Ward in his admirable "Flora" of 18812 listed 146 species of plants from previous publications on the botany of the District of Columbia region which at that time seemed to have disappeared. However by 1919, 36 of those species had been re-collected and were included in the "Flora" of that year.

These confirmations of their discoveries do credit to the earlier botanists and encourage us to believe that one after another most of the plants recorded by them will again be collected in our region. Turning once more to the list in the Muhlenberg letter (which, be it recalled, has priority in date over any of the published catalogs), we find that of the species assigned with reasonable satisfaction to modern synonyms, 12 are not included in the most recent Flora. Of these, 7 have a range unquestionably covering the District of Columbia and it would seem certain should again be col-

<sup>&</sup>lt;sup>1</sup>Bull. Biol. Soc. Wash. No. 1, 1918, p. 86.

<sup>&</sup>lt;sup>2</sup>Bul. 22, U. S. Nat. Mus.

lected here, namely: Thaspium trifoliatum, Phlox glaberrima, Scutellaria integrifolia, Vaccinium virgatum, Hieracium marianum, Laciniaria spicata and Blephariglottis psycodes. In addition to these a plant, No. 46, named only to the genus Rhamnus, brings sharply to mind the fact that while it seems within the bounds of possibility to collect here any of the 5 species of Rhamnus treated in the "Illustrated Flora," there are no preserved specimens of any of them.<sup>1</sup>

The other five species of the Muhlenberg list have known ranges coming close enough to our territory to be ranked as possibilities for re-collection, especially in the light of several remarkable extensions of range that have recently been made (e. g. Aletris aurea, Senecio crawfordii). These possible rediscoveries are: Ranunculus reptans, Berula erecta, Gelsemium sempervirens (perhaps escaped from eultivation), Viola palmata and Elephantopus tomentosus.

Only one of all these plants (namely *Liatris spicata*) is in Ward's list of 146 'lost' species: that list as noted above, has been reduced by newly published records to 110. If we add the present 11, or better 12 (including the *Rhamnus*) we find there are still 122 previously recorded species which Washington botanists have the pleasure of searching for, the search to be crowned in many cases, it is hoped, by the great satisfaction of rediscovery.

<sup>&</sup>lt;sup>1</sup>In this connection the writer feels impelled to state that his notes record the collection of *Rhamnus* in fruit. along Piney Branch, D. C., Aug. 28, 1904. Unfortunately he was not pressing plants at that time, but specimens were brought into our laboratory for indentification, and with fruit in hand, it hardly seems that an error in recognizing this genus could have been made.